TO2280 82524860

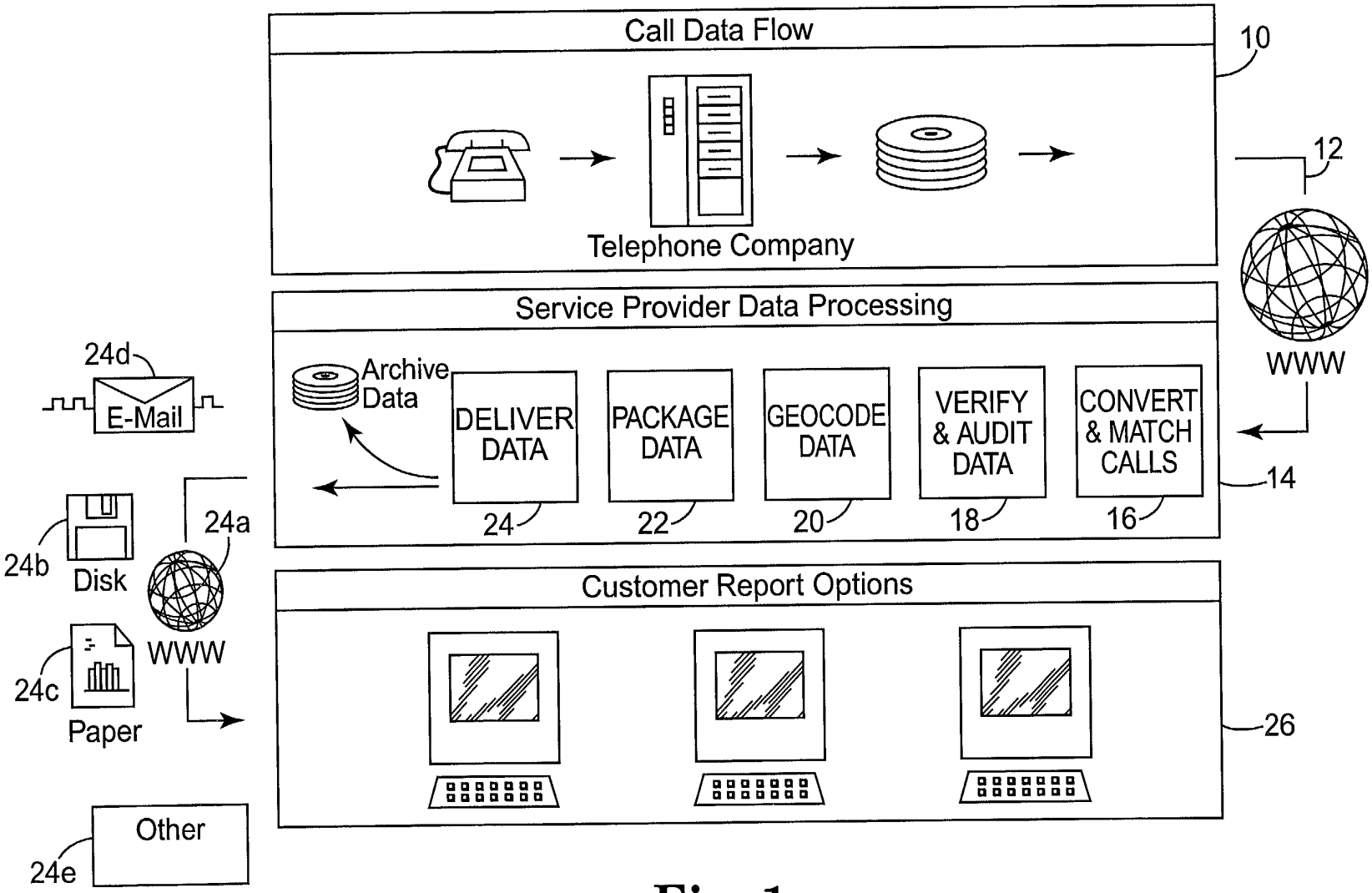


Fig. 1

T02280 "8252h860

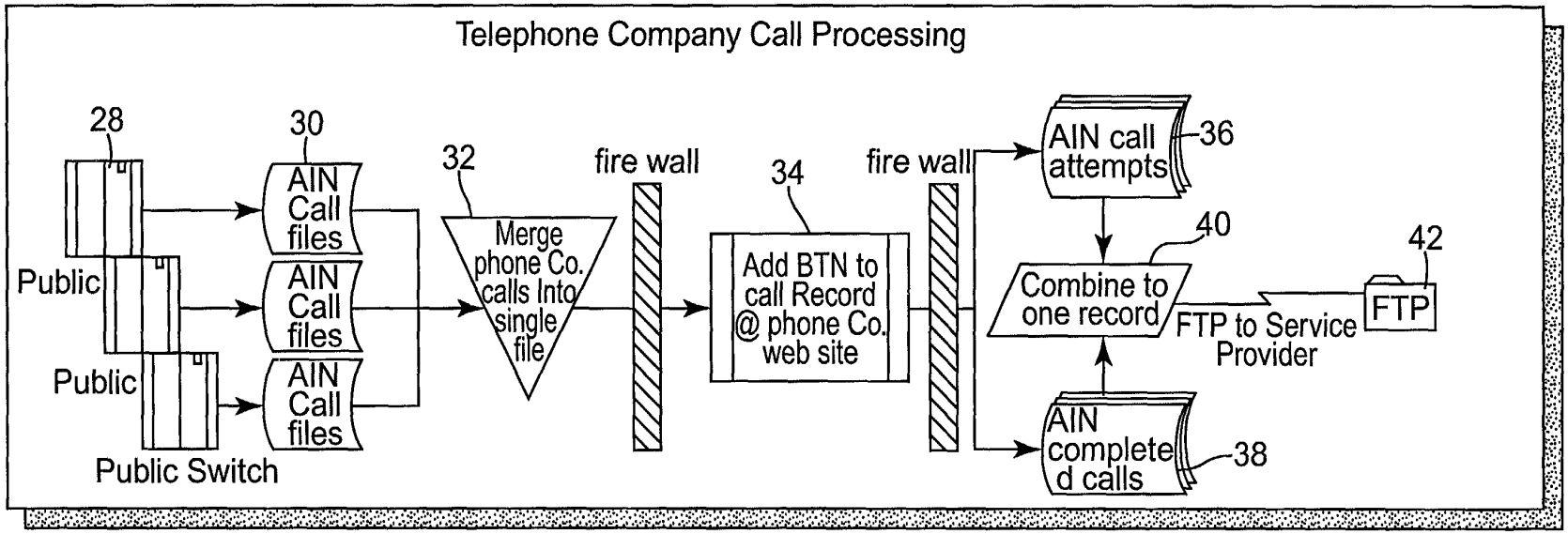


Fig. 2

TO2280" 8/524,860

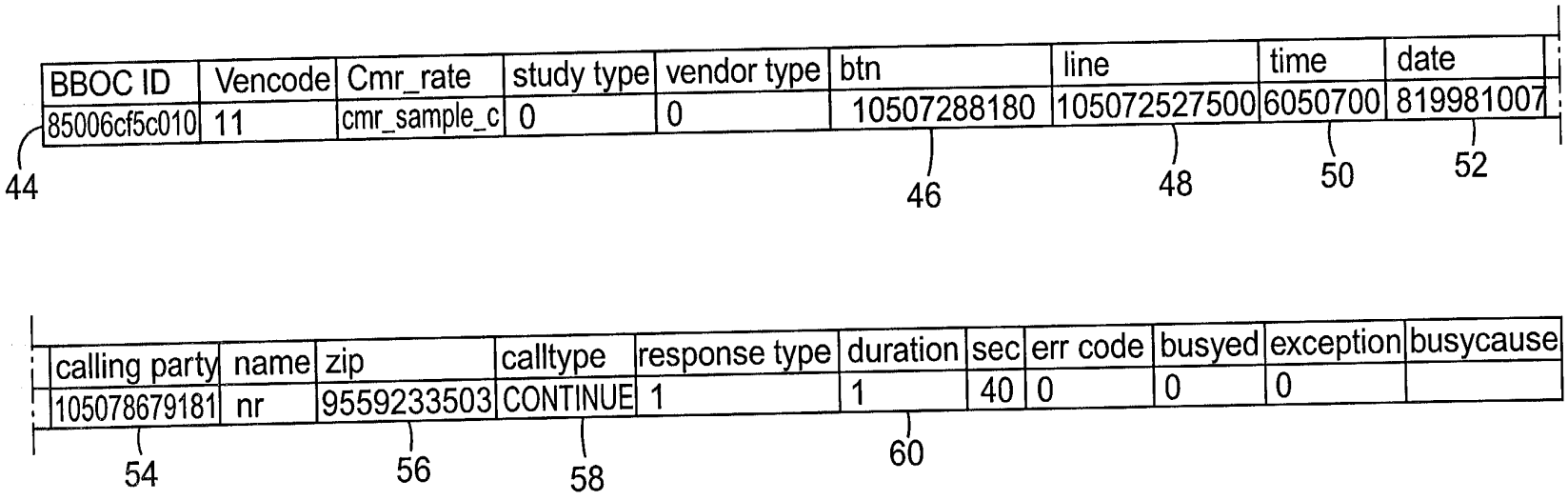


Fig. 3

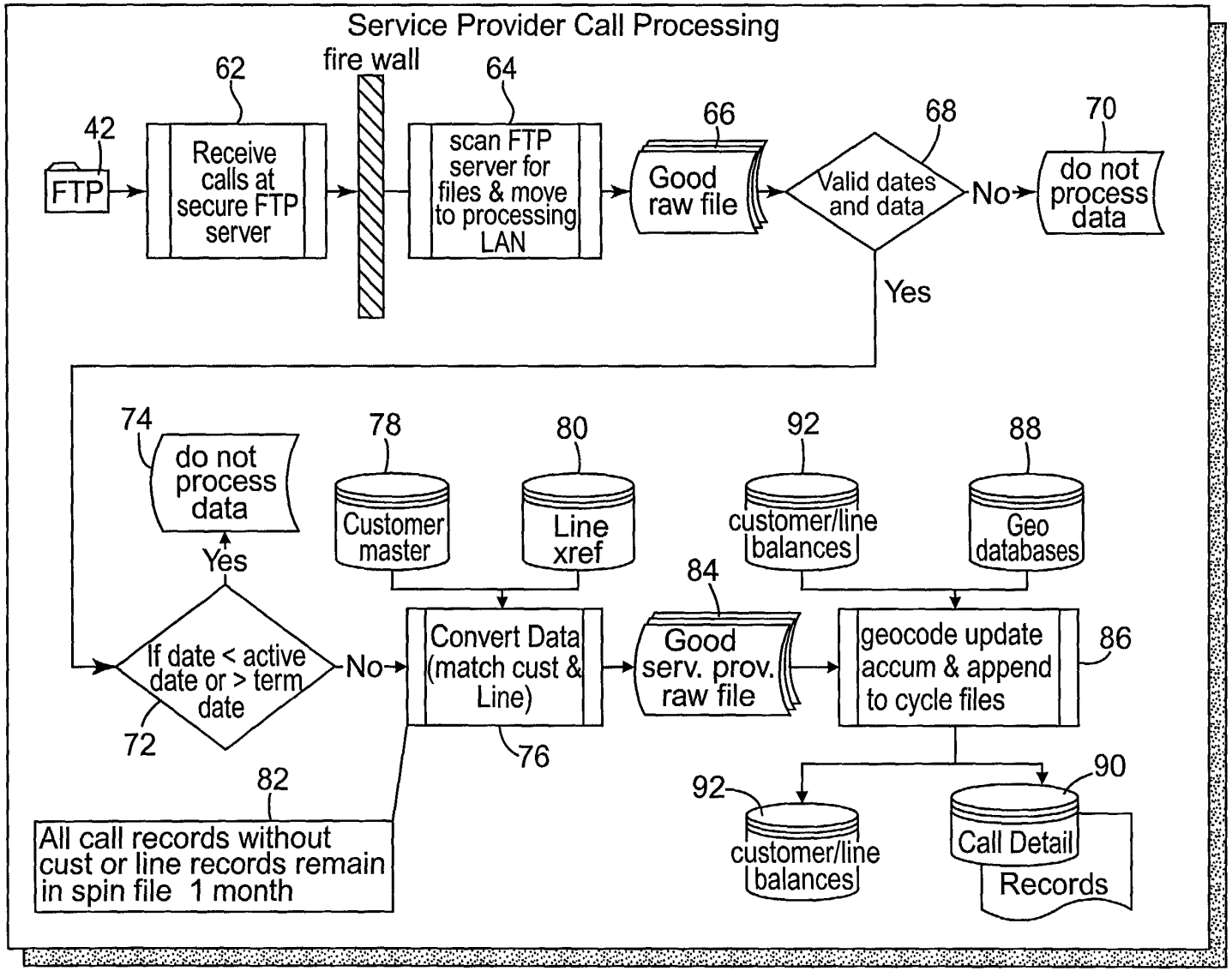

Service Provider Call Processing
fire wall
62
64
66
68
70
42
FTP
Receive calls at secure FTP server
scan FTP server for files & move to processing LAN
Good raw file
Valid dates and data
No
do not process data
Yes
74
do not process data
78
80
92
88
Customer master
Line xref
customer/line balances
Geo databases
Yes
84
If date < active date or > term date
No
Convert Data (match cust & Line)
Good serv. prov. raw file
geocode update accum & append to cycle files
86
72
76
82
All call records without cust or line records remain in spin file 1 month
92
90
customer/line balances
Call Detail Records

Fig. 4

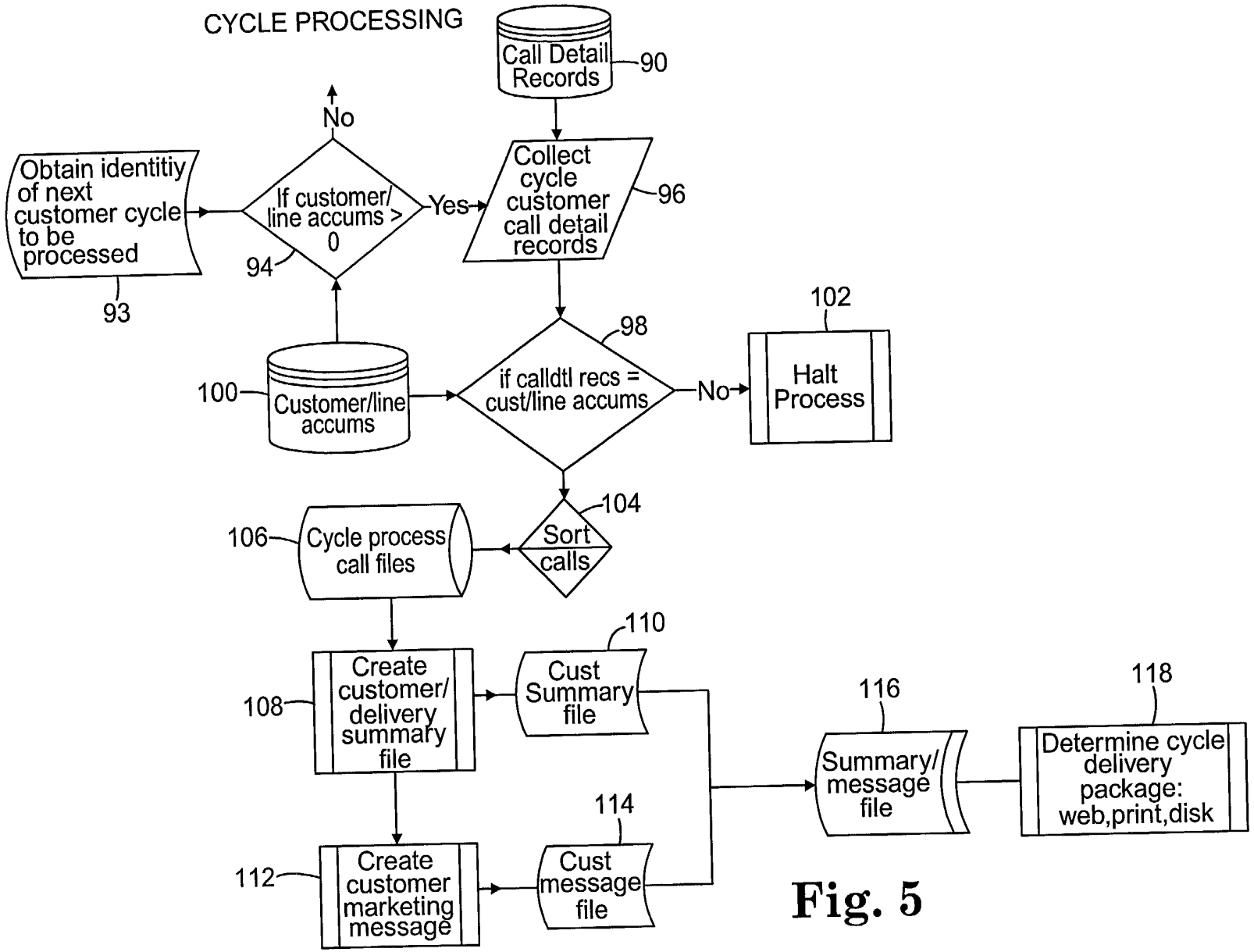

CYCLE PROCESSING
Call Detail Records
90
No
Obtain identitiy of next customer cycle to be processed
93
If customer/ line accums > 0
94
Yes
Collect cycle customer call detail records
96
102
98
100
Customer/line accums
if calldtl recs = cust/line accums
No
Halt Process
104
106
Cycle process call files
Sort calls
110
Create customer/ delivery summary file
108
Cust Summary file
116
118
Summary/ message file
Determine cycle delivery package: web,print,disk
114
112
Create customer marketing message
Cust message file

Fig. 5

T02280 "8/524860

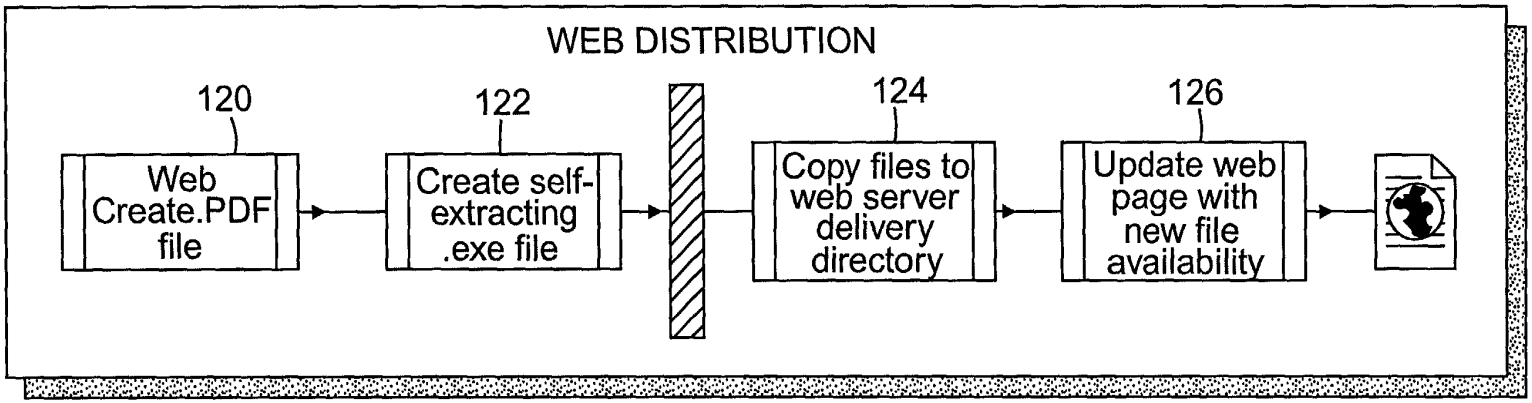


Fig. 6

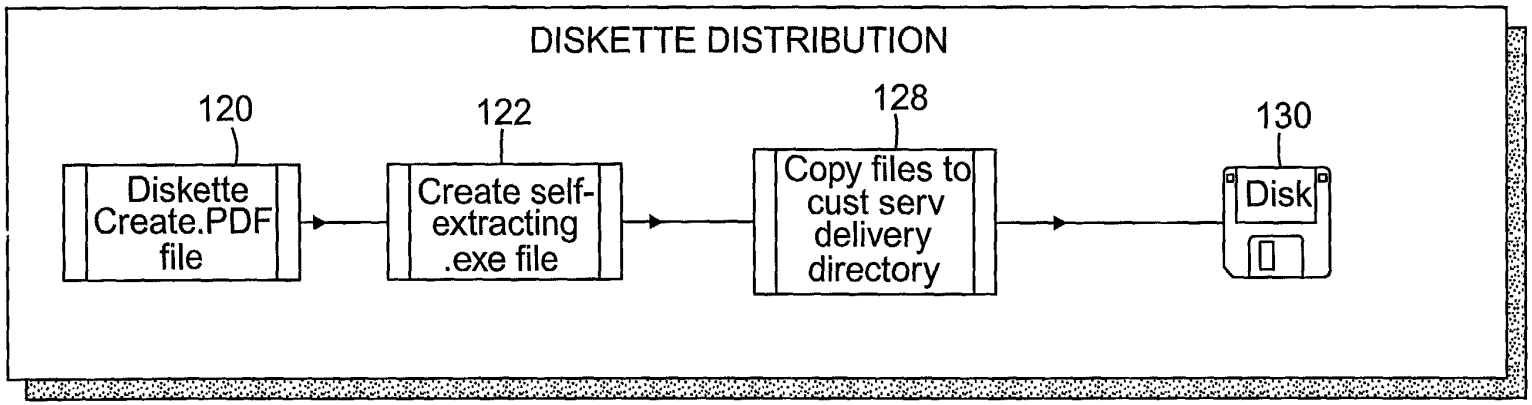


Fig. 7

TO2280 "8/52h860

132	134	136	138	140	142	144	146	148	150	152	154	156	
File_ID	CDATE	CTIME	DN	CPN	CALL_TYPE	CALL_DISP	CALL_STAT	CALL_DUR	XACTION	CPN_NAME	POSTALCODE	LONGITUDE	LATITUDE	Q_BYTES	MISC
	8/22/98	04:18:15 PM	5135551212	9375787400	I	2	0	0		unavailable		-84.193714	39.759868	S	
	8/22/98	04:18:36 PM	5135551212	8122562495	I	0	1	260		unavailable		-85.384117	38.733633	S	
	8/22/98	04:32:30 PM	5135551212	7405458420	I	0	1	200		unavailable		-82.961757	40.232652	S	
	8/22/98	06:39:51 PM	5135551212	1111111111	I	0	1	360		unavailable		0.000000	0.000000	U	
	8/23/98	08:55:34 AM	5135551212	5555555555	I	0	1	2730		unavailable		0.000000	0.000000	U	
	8/23/98	09:09:07 AM	5135551212	1111111111	O	0	1	240		unavailable		0.000000	0.000000	U	
	8/23/98	09:52:46 AM	5135551212	1111111111	I	1	0	0		unavailable		0.000000	0.000000	U	
	8/23/98	12:22:41 PM	5135551212	1111111111	I	0	1	230		unavailable		0.000000	0.000000	U	
	8/23/98	12:48:28 PM	5135551212	5133901888	I	0	1	110		unavailable		-84.519930	39.102459	S	
	8/23/98	01:41:09 PM	5135551212	6066207160	I	0	1	220		unavailable		-84.519930	39.102459	S	
	8/23/98	01:53:10 PM	5135551212	9378565488	I	0	1	100		unavailable		-84.364952	39.623529	S	
	8/23/98	02:17:51 PM	5135551212	1111111111	I	2	0	0		unavailable		0.000000	0.000000	U	
	8/23/98	03:32:58 PM	5135551212	1111111111	I	0	1	50		unavailable		0.000000	0.000000	U	
	8/23/98	03:47:34 PM	5135551212	5136598931	I	3	0	0		unavailable		-84.519930	39.102459	S	
	8/23/98	05:30:56 PM	5135551212	7658471638	I	0	1	220		unavailable		-84.941571	40.049073	S	
	8/23/98	07:16:25 PM	5135551212	9372740967	I	0	1	70		unavailable		-84.225906	39.790287	S	
	8/23/98	11:09:44 PM	5135551212	1111111111	I	0	1	2720		unavailable		0.000000	0.000000	U	
	8/21/98	09:06:43 AM	5135551212	6066354067	O	0	1	50		unavailable	410019720	-84.419803	38.880692	A	
	8/20/98	09:17:34 AM	5135551212	6065895650	I	0	1	4400		unavailable	410058211	-84.722085	39.028344	A	
	8/19/98	08:33:35 AM	5135551212	6068697769	I	2	0	0		unavailable	410059751	-84.737297	39.075182	A	
	8/19/98	09:05:04 AM	5135551212	6066879769	I	0	1	2180		unavailable	410059751	-84.737297	39.075182	A	
	8/19/98	05:22:59 PM	5135551212	6066896779	I	0	1	2850		unavailable	410059751	-84.737297	39.075182	A	
	8/21/98	08:55:45 PM	5135551212	6066722444	I	0	1	280		unavailable	410069608	-84.369442	38.787168	A	
	8/17/98	11:59:37 AM	5135551212	6069218116	O	0	1	760		unavailable	410111135	-84.530487	39.082738	A	
	8/20/98	02:43:02 PM	5135551212	6062198116	I	0	1	3450		unavailable	410111135	-84.530487	39.082738	A	
	8/21/98	04:59:46 PM	5135551212	6062198116	I	1	0	0		unavailable	410111135	-84.530487	39.082738	A	
	8/18/98	10:21:30 AM	5135551212	6062916544	I	0	1	1610		unavailable	410111160	-84.529001	39.082483	A	
	8/19/98	09:26:36 AM	5135551212	6069214564	I	0	1	710		unavailable	410111160	-84.529001	39.082483	A	

90

Fig. 8

Geocoding logic hierarchy Criterion				Value
	180 CASE 1			
IF	9 digit zip exists in zip field		& exists in -> 9 digit zip DB	A
	otherwise	9 digit zip (1st 5 digits)	exists in -> 5 digit zip DB	B
	otherwise	9 digit zip (1st 3 digits)	exists in -> 3 digit zip DB	C
	otherwise	npanxx of calling # field	exists in -> npanxx DB	D
	otherwise	npa of calling # field	exists in -> nap DB	E
	otherwise	use special value indicating unknown origin		F
	182 CASE 2			
otherwise, IF	6,7,or 8 digit zip exists in zip field (bad data)			
	AND	npanxx of calling # field	exists in -> npanxx DB	G
	otherwise	npa of calling # field	exists in -> nap DB	H
	otherwise	use special value indicating unknown origin		I
	184 CASE 3			
otherwise, IF	5 digit zip exists in zip field		& exists in -> 5 digit zip DB	J
	otherwise	5 digit zip (1st 3 digits)	exists in -> 3 digit zip DB	K
	otherwise	npanxx of calling # field	exists in -> npanxx DB	L
	otherwise	npa of calling # field	exists in -> nap DB	M
	otherwise	use special value indicating unknown origin		N
	186 CASE 4			
otherwise, IF	< 5 digit zip exists in zip field (bad data)			
	AND	npanxx of calling # field	exists in -> npanxx DB	P
	otherwise	npa of calling # field	exists in -> nap DB	Q
	otherwise	use special value indicating unknown origin		R
	188 CASE 5			
otherwise, IF	0 or null exists in zip field (no zip)			
	AND	npanxx of calling # field	exists in -> npanxx DB	S
	otherwise	npa of calling # field	exists in -> nap DB	T
	otherwise	use special value indicating unknown origin		U

Fig. 9

T02280 8/52/1860

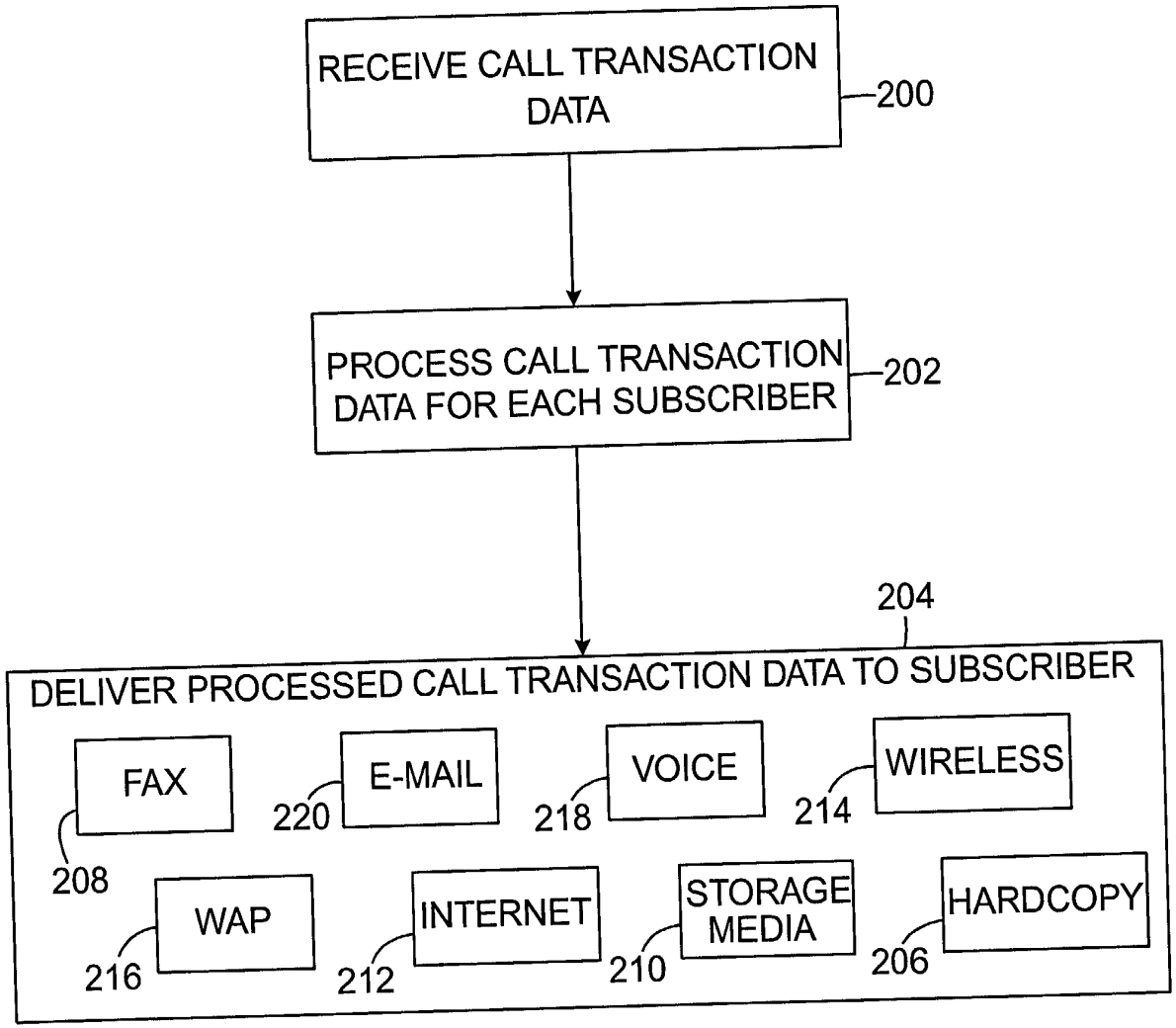


Fig. 10

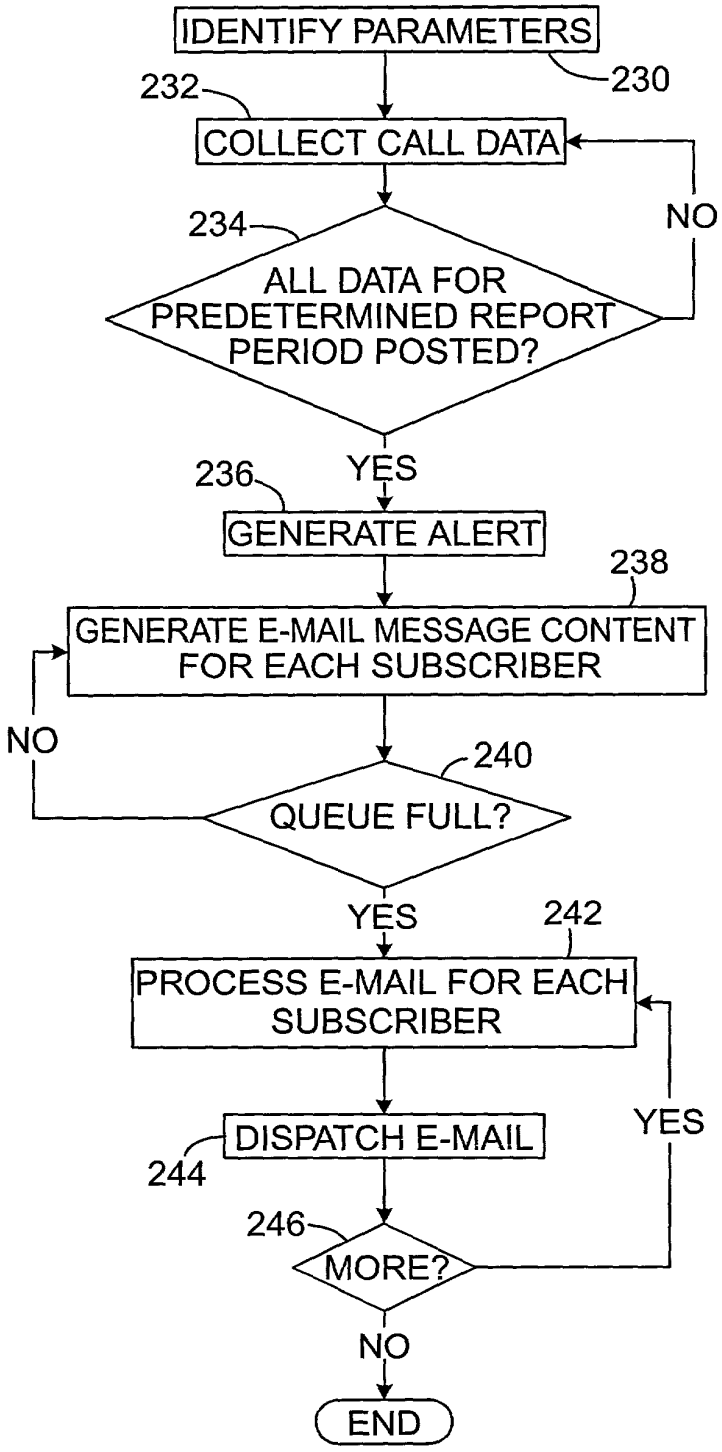

IDENTIFY PARAMETERS
230
232
COLLECT CALL DATA
234
ALL DATA FOR PREDETERMINED REPORT PERIOD POSTED?
NO
YES
236
GENERATE ALERT
238
GENERATE E-MAIL MESSAGE CONTENT FOR EACH SUBSCRIBER
NO
240
QUEUE FULL?
YES
242
PROCESS E-MAIL FOR EACH SUBSCRIBER
DISPATCH E-MAIL
244
246
MORE?
YES
NO
END

Fig. 11

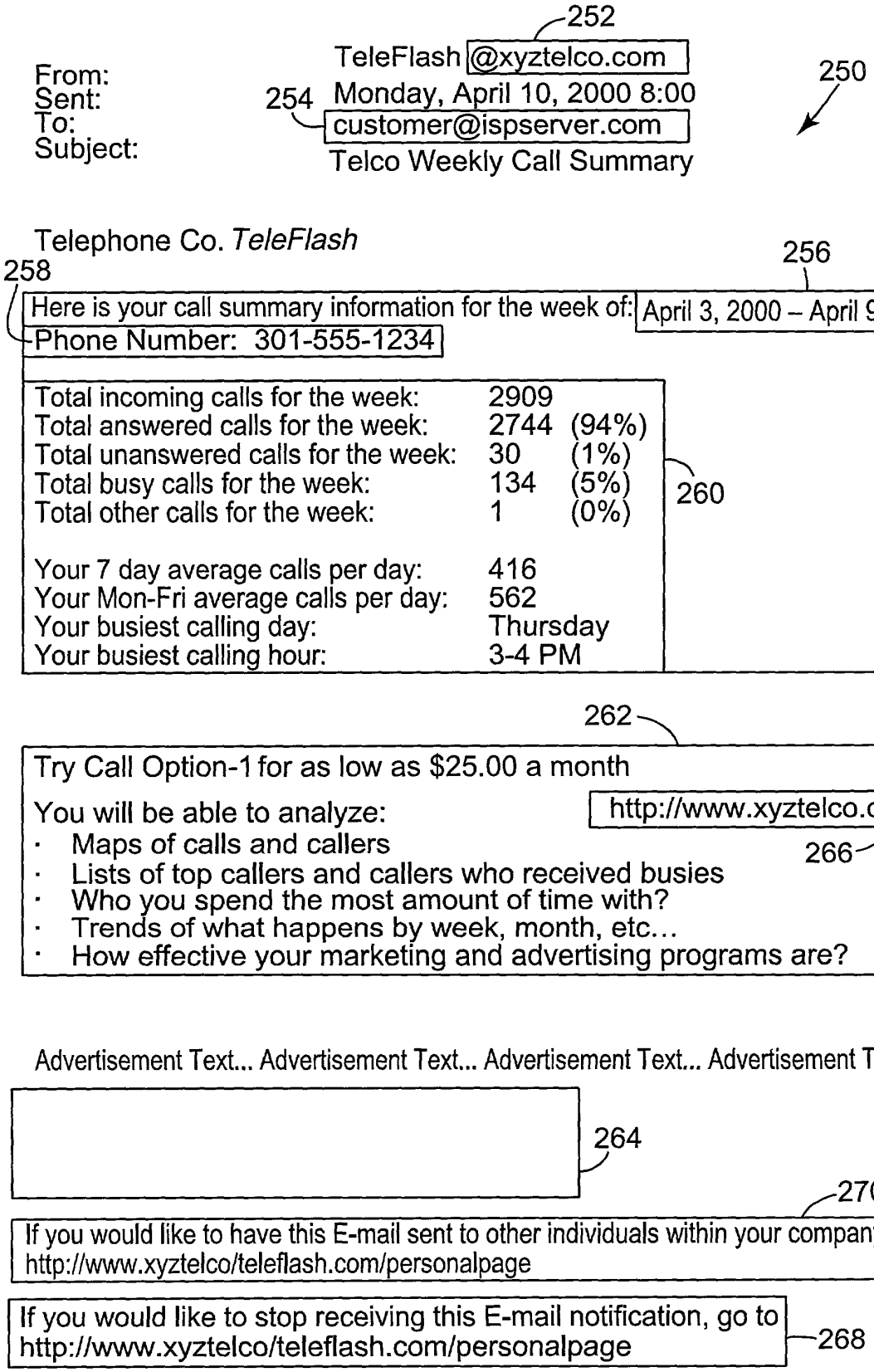

252
From: TeleFlash @xyztelco.com
Sent: Monday, April 10, 2000 8:00
254
To: customer@ispserver.com
Subject: Telco Weekly Call Summary
250
Telephone Co. TeleFlash
258
256
Here is your call summary information for the week of: April 3, 2000 – April 9, 2000
Phone Number: 301-555-1234
Total incoming calls for the week: 2909
Total answered calls for the week: 2744 (94%)
Total unanswered calls for the week: 30 (1%)
Total busy calls for the week: 134 (5%)
Total other calls for the week: 1 (0%)
260
Your 7 day average calls per day: 416
Your Mon-Fri average calls per day: 562
Your busiest calling day: Thursday
Your busiest calling hour: 3-4 PM
262
Try Call Option-1 for as low as $25.00 a month
You will be able to analyze:
http://www.xyztelco.com
266
· Maps of calls and callers
· Lists of top callers and callers who received busies
· Who you spend the most amount of time with?
· Trends of what happens by week, month, etc...
· How effective your marketing and advertising programs are?
Advertisement Text... Advertisement Text... Advertisement Text... Advertisement Text...
264
270
If you would like to have this E-mail sent to other individuals within your company, go to http://www.xyztelco/teleflash.com/personalpage
If you would like to stop receiving this E-mail notification, go to http://www.xyztelco/teleflash.com/personalpage
268

Fig. 12

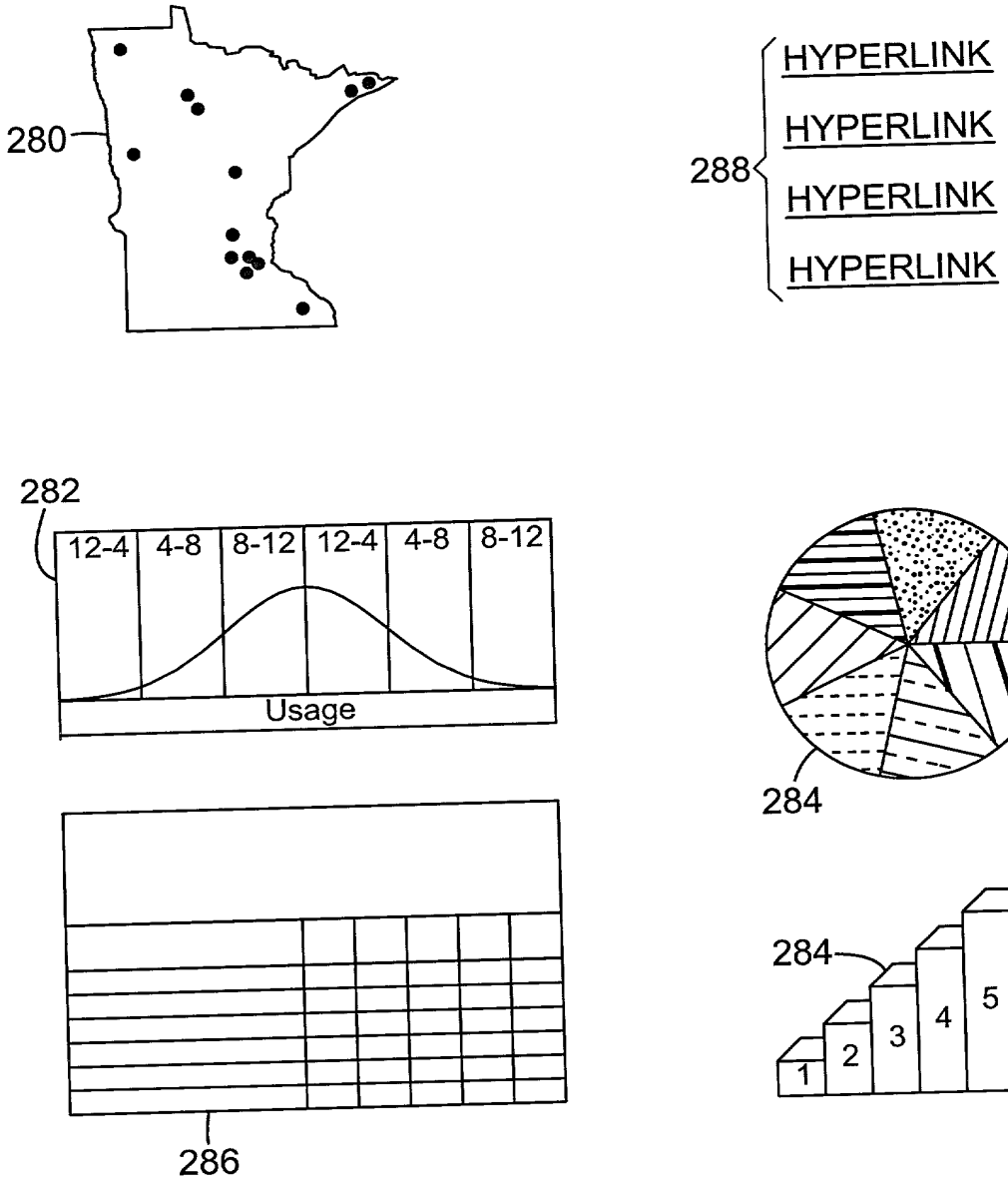

280
HYPERLINK
HYPERLINK
HYPERLINK
HYPERLINK
288
282
12-4
4-8
8-12
12-4
4-8
8-12
Usage
284
284
1
2
3
4
5
286

Fig. 13

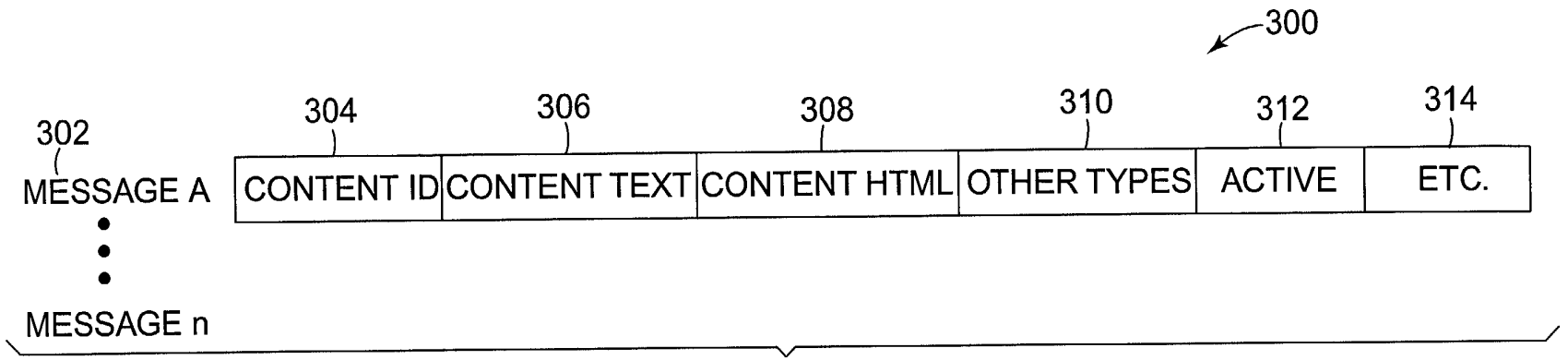

300
302
304
306
308
310
312
314
MESSAGE A
CONTENT ID
CONTENT TEXT
CONTENT HTML
OTHER TYPES
ACTIVE
ETC.
MESSAGE n

Fig. 14

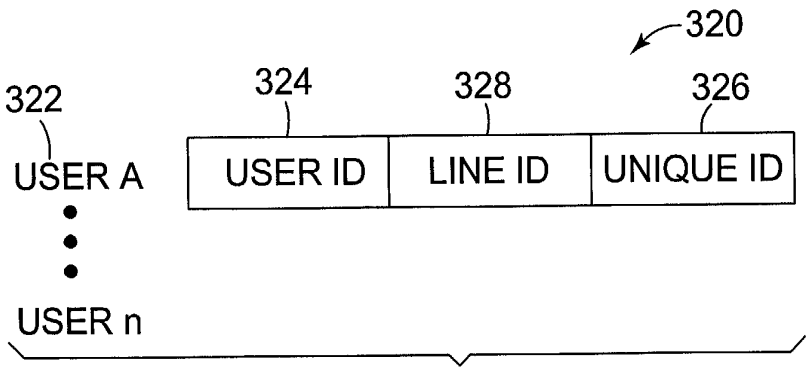

320
322
324
328
326
USER A
USER ID
LINE ID
UNIQUE ID
USER n

Fig. 15

T02280"8/52h860

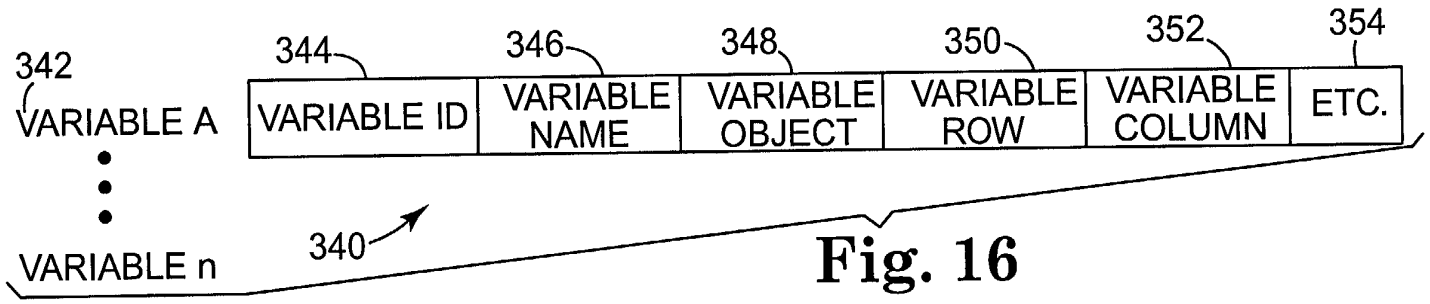


Fig. 16

360	INCOMING	NUMBER OF CALLS THAT CAME IN
362	ANSWERED	NUMBER OF CALLS THAT WERE ANSWERED
364	UNANSWERED	NUMBER OF CALLS THAT WERE UNANSWERED
366	BUSY	NUMBER OF CALLS THAT WERE BUSY
368	OTHER	NUMBER OF CALLS THAT WERE OF AN UNKNOWN STATE
370	INCOMING %	PERCENTAGE OF CALLS THAT CAME IN (i.e., 100%)
372	ANSWERED %	PERCENTAGE OF CALLS THAT WERE ANSWERED
374	UNANSWERED %	PERCENTAGE OF CALLS THAT WERE UNANSWERED
376	BUSY %	PERCENTAGE OF CALLS THAT WERE BUSY
378	OTHER %	PERCENTAGE OF CALLS THAT WERE OF AN UNKNOWN STATE
380	SEVEN DAY AVERAGE	AVERAGE NUMBER OF CALLS FOR THE SEVEN DAYS
382	FIVE DAY AVERAGE	AVERAGE NUMBER OF CALLS FOR FIVE DAYS (M-F)
384	FIVE DAY TOTAL	NUMBER OF CALLS FOR FIVE DAYS (M-F)
386	BUSY DAY	THE DAY WITH THE MOST TOTAL CALLS
388	BUSY DAY TOTAL	NUMBER OF CALLS THAT OCCURRED FOR THE BUSIEST DAY
390	TOP ZIP	THE ZIP CODE WHERE THE MOST CALLS CAME FROM
392	TOP STATE	THE STATE WHERE THE MOST CALLS CAME FROM

Fig. 17

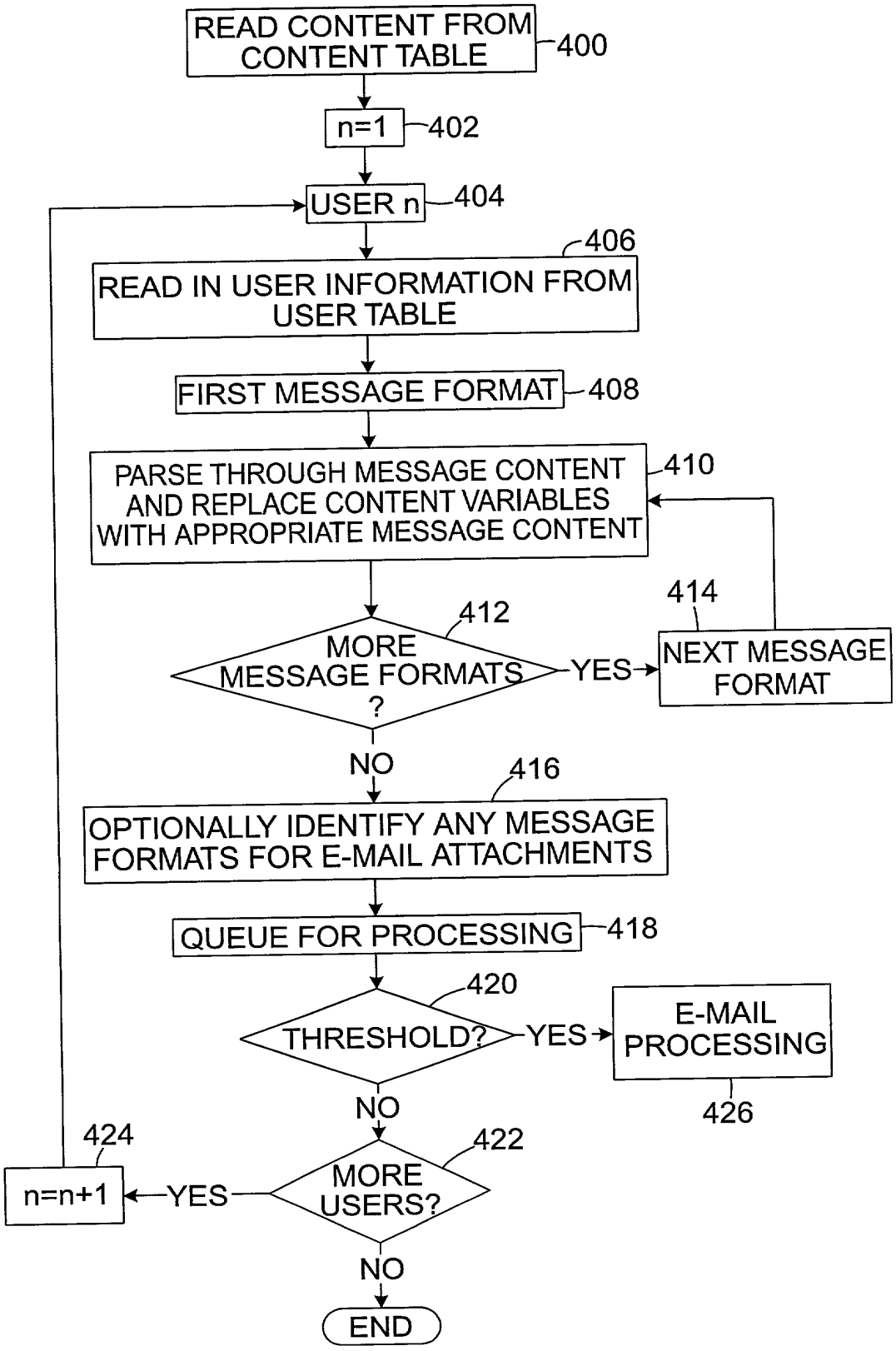

READ CONTENT FROM CONTENT TABLE
400
n=1
402
USER n
404
406
READ IN USER INFORMATION FROM USER TABLE
FIRST MESSAGE FORMAT
408
PARSE THROUGH MESSAGE CONTENT AND REPLACE CONTENT VARIABLES WITH APPROPRIATE MESSAGE CONTENT
410
414
412
MORE MESSAGE FORMATS ?
YES
NEXT MESSAGE FORMAT
NO
416
OPTIONALLY IDENTIFY ANY MESSAGE FORMATS FOR E-MAIL ATTACHMENTS
QUEUE FOR PROCESSING
418
420
THRESHOLD?
YES
E-MAIL PROCESSING
426
NO
424
422
n=n+1
YES
MORE USERS?
NO
END

Fig. 18

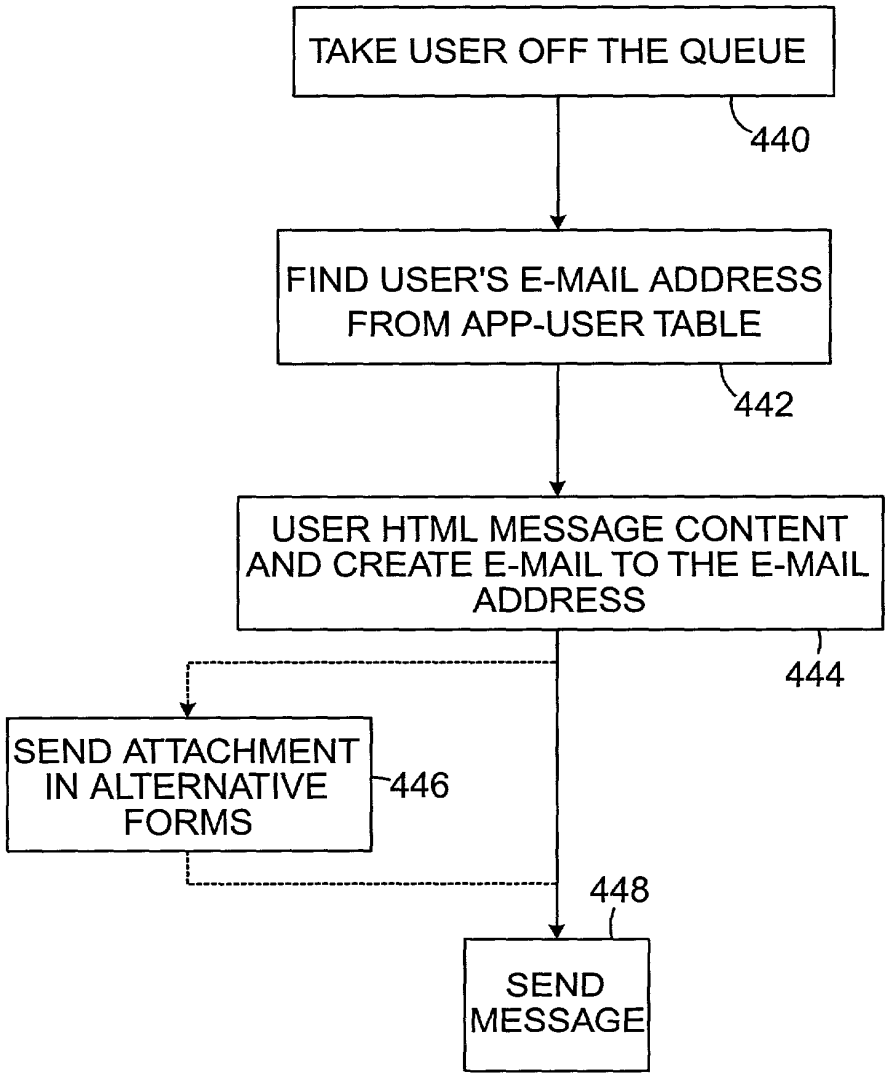

TAKE USER OFF THE QUEUE
440
FIND USER'S E-MAIL ADDRESS FROM APP-USER TABLE
442
USER HTML MESSAGE CONTENT AND CREATE E-MAIL TO THE E-MAIL ADDRESS
444
SEND ATTACHMENT IN ALTERNATIVE FORMS
446
448
SEND MESSAGE

Fig. 19

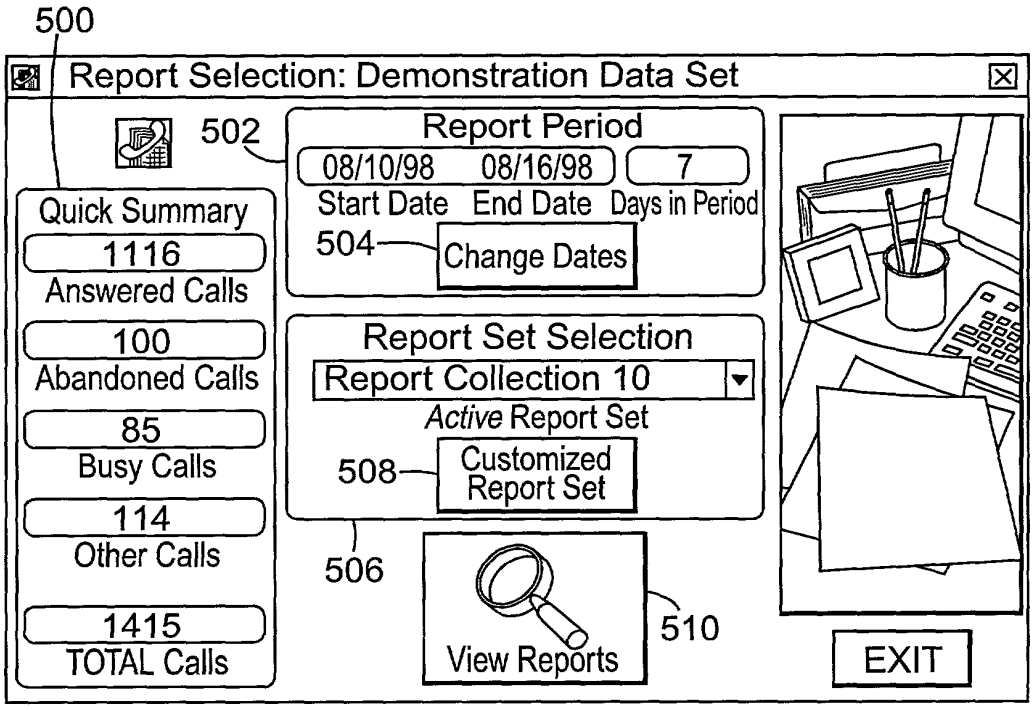

500
Report Selection: Demonstration Data Set
502
Report Period
08/10/98
08/16/98
7
Start Date
End Date
Days in Period
504
Change Dates
Quick Summary
1116
Answered Calls
100
Abandoned Calls
85
Busy Calls
114
Other Calls
1415
TOTAL Calls
Report Set Selection
Report Collection 10
Active Report Set
508
Customized Report Set
506
View Reports
510
EXIT

Fig. 20

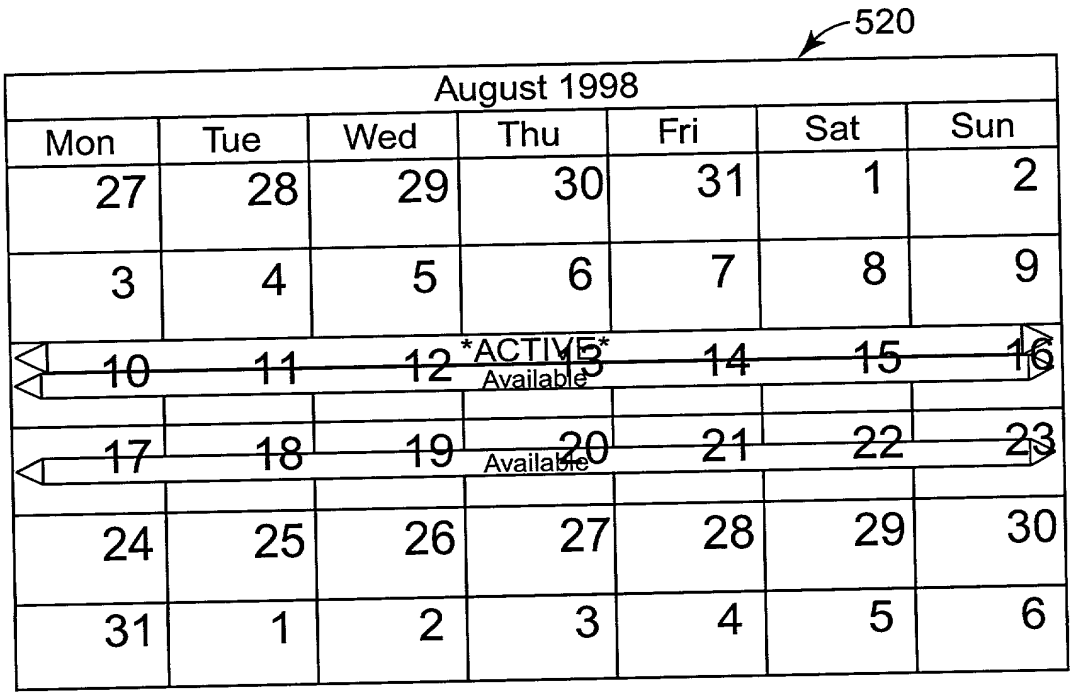

520
August 1998
Mon
Tue
Wed
Thu
Fri
Sat
Sun
27
28
29
30
31
1
2
3
4
5
6
7
8
9
10
11
12
ACTIVE
Available
13
14
15
16
17
18
19
Available
20
21
22
23
24
25
26
27
28
29
30
31
1
2
3
4
5
6

Fig. 21

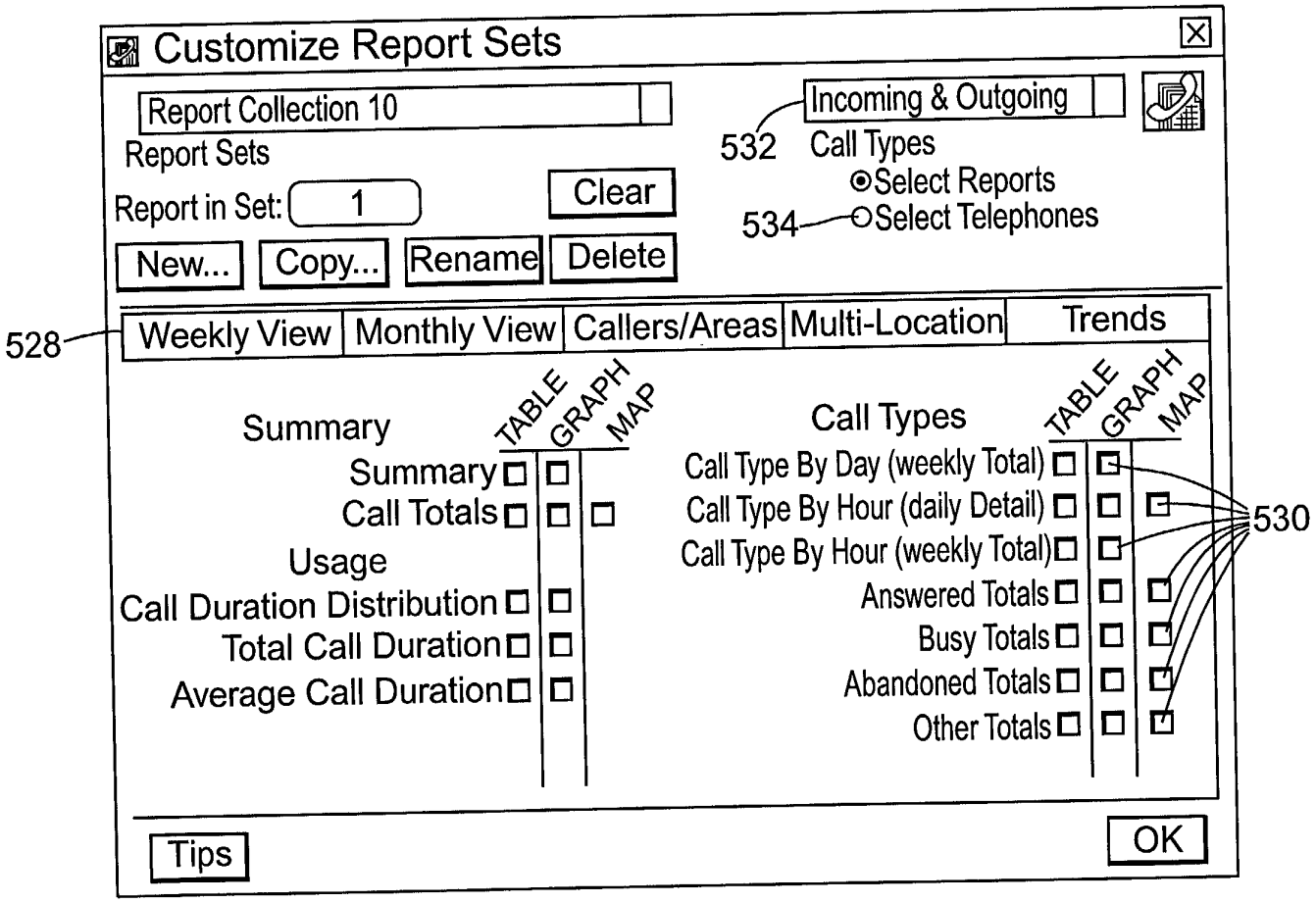

Customize Report Sets
Report Collection 10
Report Sets
Report in Set: 1
Clear
New...
Copy...
Rename
Delete
Incoming & Outgoing
532
Call Types
Select Reports
534
Select Telephones
528
Weekly View
Monthly View
Callers/Areas
Multi-Location
Trends
Summary
TABLE
GRAPH
MAP
Summary
Call Totals
Usage
Call Duration Distribution
Total Call Duration
Average Call Duration
Call Types
Call Type By Day (weekly Total)
Call Type By Hour (daily Detail)
Call Type By Hour (weekly Total)
Answered Totals
Busy Totals
Abandoned Totals
Other Totals
530
Tips
OK

Fig. 22

October 26,1998 - November 1, 1998

New ZIP Codes

540

New ZIP codes discovered in the current date range ranked by answered call count.

Zip Code	State	Call Count	First Call Date & Time	Last Call Date & Time	Total Duration
55402	MN	11	10/26/98 11:07:00 AM	10/30/98 02:46:00 PM	0:27:40.0
55416	MN	11	10/26/98 12:11:00 PM	10/29/98 02:37:00 PM	0:11:25.0
84111	UT	6	10/26/98 09:56:00 AM	10/28/98 02:15:00 PM	0:31:12.0
55343	MN	6	10/26/98 01:38:00 PM	10/30/98 11:57:00 AM	0:14:28.0
56304	MN	5	10/26/98 06:43:00 PM	10/28/98 05:47:00 PM	0:44:51.0
85012	AZ	4	10/27/98 05:15:00 PM	10/29/98 05:48:00 PM	0:06:14.0
55347	MN	4	10/26/98 06:51:00 AM	10/28/98 02:43:00 PM	0:02:31.0
98191	WA	3	10/26/98 10:34:00 AM	10/29/98 06:09:00 PM	0:16:07.0
55104	MN	3	10/26/98 11:48:00 AM	10/27/98 11:30:00 AM	0:03:12.0
55415	MN	3	10/27/98 05:34:00 PM	10/30/98 01:03:00 PM	0:02:17.0
80132	CO	3	10/26/98 12:57:00 PM	10/26/98 02:57:00 PM	0:01:24.0
55425	MN	2	10/26/98 04:25:00 PM	10/28/98 03:56:00 PM	0:06:05.0
98188	WA	2	10/28/98 01:26:00 PM	10/28/98 01:29:00 PM	0:05:34.0
83204	ID	2	10/30/98 11:09:00 AM	10/30/98 11:09:00 AM	0:04:48.0
55431	MN	2	10/26/98 03:59:00 PM	10/30/98 09:44:00 AM	0:03:39.0
55124	MN	2	10/27/98 02:08:00 PM	10/27/98 02:10:00 PM	0:03:07.0
55364	MN	2	10/27/98 03:50:00 PM	10/27/98 03:50:00 PM	0:00:46.0
55437	MN	2	10/28/98 05:11:00 PM	10/29/98 03:25:00 PM	0:00:29.0
55305	MN	1	10/27/98 03:20:00 PM	10/27/98 03:20:00 PM	0:09:54.0
85283	AZ	1	10/28/98 05:44:00 PM	10/28/98 05:44:00 PM	0:07:33.0
85024	AZ	1	10/27/98 05:41:00 PM	10/27/98 05:41:00 PM	0:04:06.0
80202	CO	1	10/30/98 01:36:00 PM	10/30/98 01:36:00 PM	0:03:35.0
55118	MN	1	10/30/98 08:37:00 AM	10/30/98 08:37:00 AM	0:03:17.0
97401	OH	1	10/29/98 02:13:00 PM	10/29/98 02:13:00 PM	0:02:32.0
80206	CO	1	10/28/98 10:09:00 AM	10/28/98 10:09:00 AM	0:02:02.0
68144	NE	1	10/28/98 03:14:00 PM	10/28/98 03:14:00 PM	0:01:51.0
55391	MN	1	10/28/98 05:36:00 PM	10/28/98 05:36:00 PM	0:01:48.0
55011	MN	1	10/26/98 02:30:00 PM	10/26/98 02:30:00 PM	0:01:47.0
85255	AZ	1	10/27/98 05:55:00 PM	10/27/98 05:55:00 PM	0:01:22.0
99216	WA	1	10/30/98 11:29:00 AM	10/30/98 11:29:00 AM	0:01:11.0
97204	OR	1	10/26/98 02:08:00 PM	10/26/98 02:08:00 PM	0:00:57.0
55113	MN	1	10/26/98 03:59:00 PM	10/26/98 03:59:00 PM	0:00:43.0
68102	NE	1	10/26/98 12:05:00 PM	10/26/98 12:05:00 PM	0:00:41.0
98004	WA	1	10/30/98 03:32:00 PM	10/30/98 03:32:00 PM	0:00:41.0
55422	MN	1	10/26/98 11:12:00 AM	10/26/98 11:12:00 AM	0:00:20.0
55102	MN	1	10/27/98 11:47:00 AM	10/27/98 11:47:00 AM	0:00:07.0
55427	MN	1	10/26/98 04:09:00 PM	10/26/98 04:09:00 PM	0:00:06.0
55404	MN	1	10/26/98 04:26:00 PM	10/26/98 04:26:00 PM	0:00:05.0
55420	MN	1	10/26/98 10:05:00 AM	10/26/98 10:05:00 AM	0:00:03.0

08585765.082204

Fig. 23

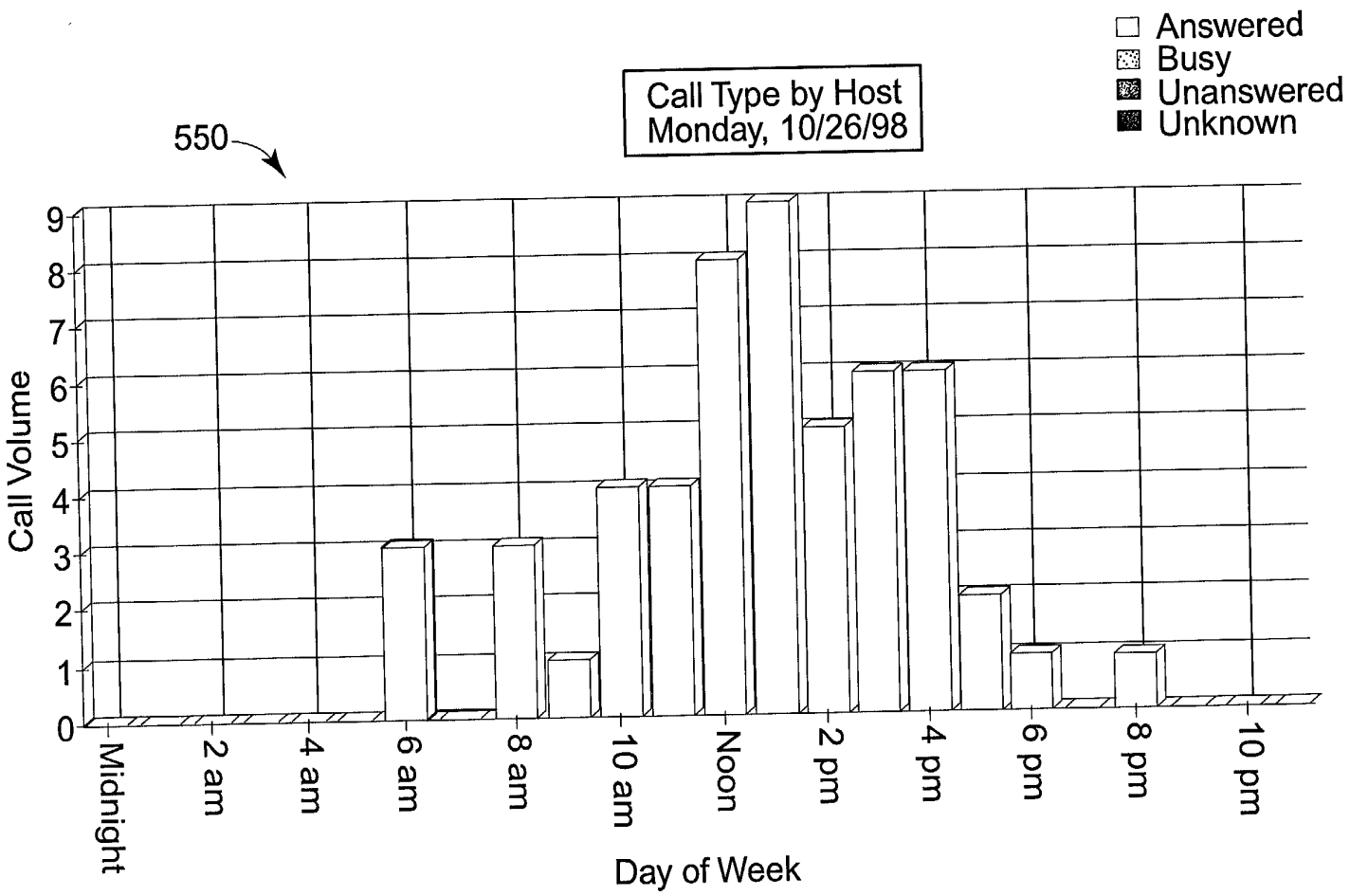

Answered
Busy
Unanswered
Unknown
Call Type by Host
Monday, 10/26/98
550
Call Volume
0
1
2
3
4
5
6
7
8
9
Midnight
2 am
4 am
6 am
8 am
10 am
Noon
2 pm
4 pm
6 pm
8 pm
10 pm
Day of Week

Fig. 24

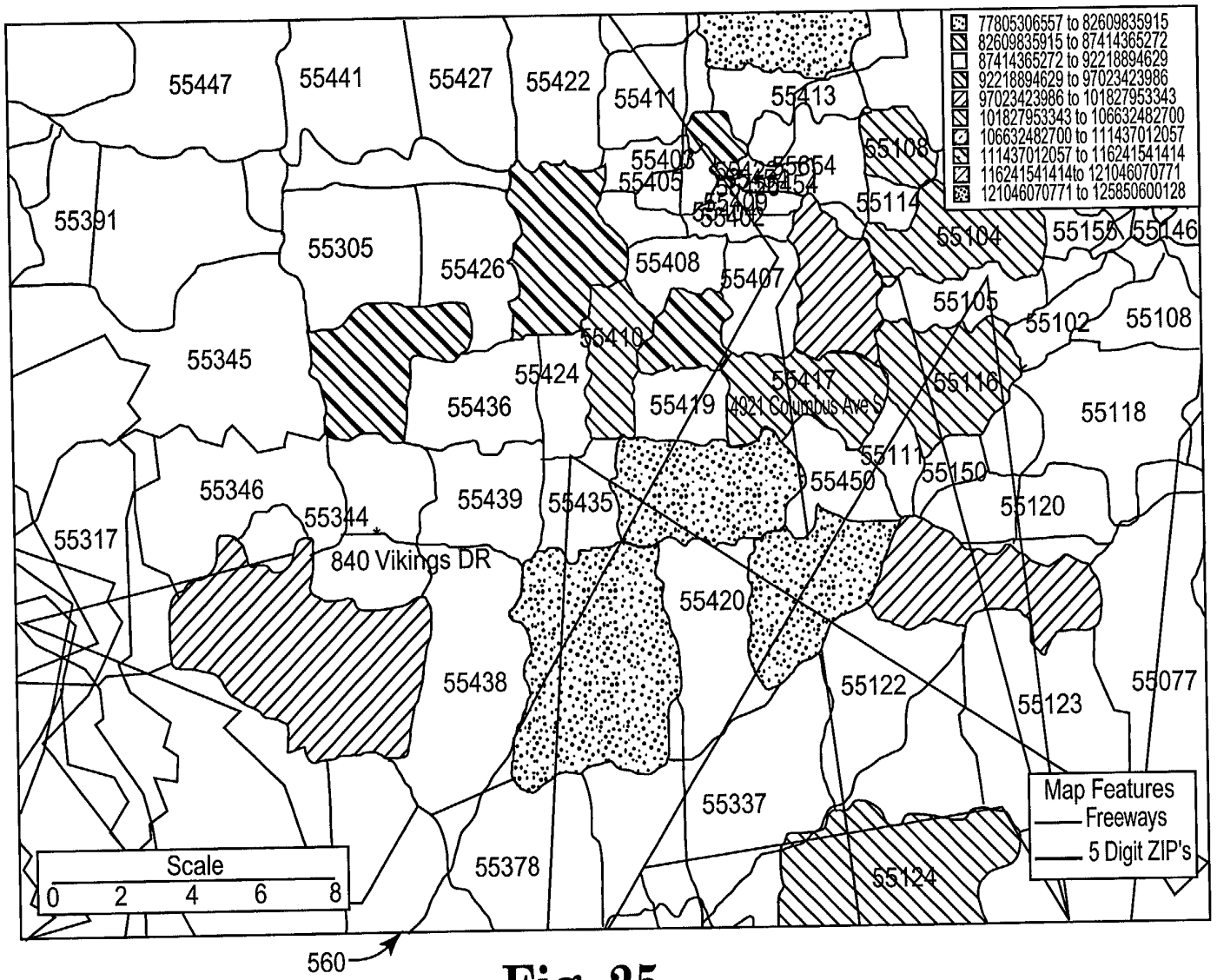
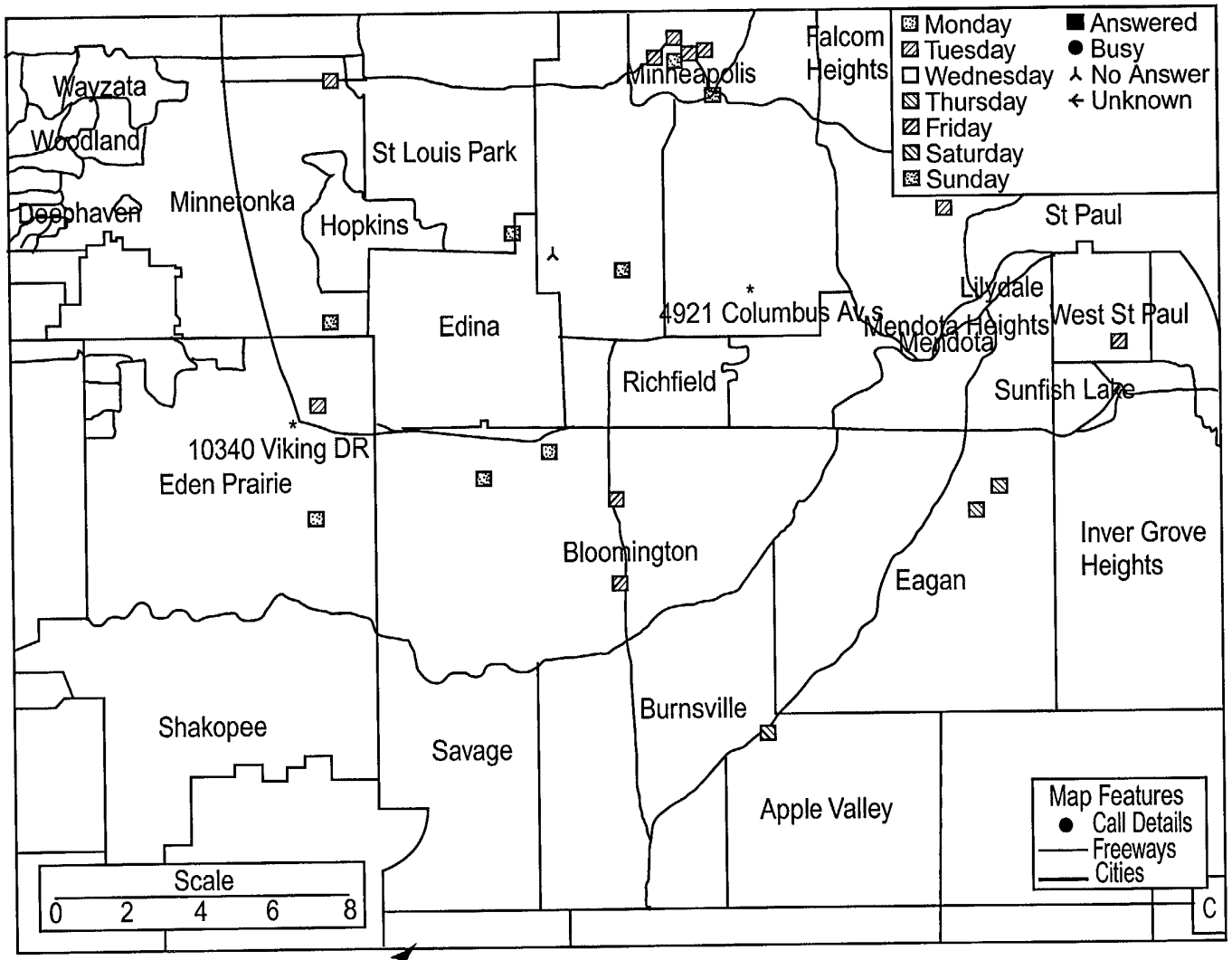

77805306557 to 82609835915
82609835915 to 87414365272
87414365272 to 92218894629
92218894629 to 97023423986
97023423986 to 101827953343
101827953343 to 106632482700
106632482700 to 111437012057
111437012057 to 116241541414
116241541414to 121046070771
121046070771 to 125850600128
55447
55441
55427
55422
55411
55413
55108
55391
55305
55426
55408
55407
55114
55104
55155
55146
55105
55102
55108
55345
55424
55410
55436
55419
4921 Columbus Ave S
55417
55116
55118
55111
55150
55346
55439
55435
55450
55120
55344
55317
840 Vikings DR
55420
55438
55122
55123
55077
55337
55378
55124
Scale
0 2 4 6 8
Map Features
Freeways
5 Digit ZIP's
560

Fig. 25


Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Answered
Busy
No Answer
Unknown
Wayzata
Woodland
Deephaven
Minnetonka
St Louis Park
Hopkins
Minneapolis
Falcom Heights
St Paul
Lilydale
West St Paul
Mendota Heights
Mendota
4921 Columbus Av S
Edina
Richfield
Sunfish Lake
10340 Viking DR
Eden Prairie
Bloomington
Eagan
Inver Grove Heights
Shakopee
Savage
Burnsville
Apple Valley
Map Features
Call Details
Freeways
Cities
Scale
0 2 4 6 8
C

570

Fig. 26